

USSR

UDC 621.762.001

ABARBANEL'. Z. I., and KOVCHUR, S. G.

"Photometric Method for the Determination of the Specific Surface of Powders"

Tr. Vitebsk. tekhnol. in-ta legk. prom-sti [Works of the Vitebsk Technological Institute for Light Industry], 1, 1970, pp. 82-85, (Translated from Referativnyy Zhurnal-Metallurgiya, No. 1, 1971, Abstract No.1 G426 by I. Brokhin).

Translation: A method is developed for turbidimetric determination of the specific surface of polydispersed powders, based on the scattering of light passing through a homogeneously distributed powder material. The homogeneous state must be retained throughout the time of the measurement. This is achieved either by continuous intensive mixing of the system or by using a viscous liquid (such as glycerine) to eliminate sedimentation of particles. Equations are presented characterizing the attenuation of a parallel light beam passing through a turbid polydispersed medium and the transmission factor, which is measured by known photometric methods. The final equation for the specific surface σ is $\sigma = k/\gamma \ln I_0/I$, where k is an instrument

2/2 025

UNCLASSIFIED

PROCESSING DATE--3006170

CIRC ACCESSION NO--AP0124869

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EQUATIONS WERE DEVELOPED FOR CALCG. THE AV. CONC. OF EXCESS HOLES, $\Delta \bar{P}$. THE DISTRIBUTION WAS PLOTTED OF $\Delta \bar{P}$ FOR DIFFERENT RATIOS OF THE RADIUS, R , OF THE EXCITING SPOT AND THE DIFFUSION LENGTH. FROM THE PROPORTIONALITY OF THE ABSORPTION COEFF., K , AND THE CONC. OF CARRIER CHANGES, ΔK EQUALS $\Sigma \Delta \bar{P}$, THE ABSORPTION OF NONEQUIL. CARRIER CHARGES WAS CALCD. FOR DIFFERENT POSITIONS AND CONFIGURATIONS OF THE SPOT; Σ IS THE CROSS SECTION OF ABSORBED RADIATION. FOR ΔK_D IS SIMILAR TO 1, $K_{SUBO} D$ IS SIMILAR TO 1, WHERE D IS THE THICKNESS OF THE ABSORBING LAYER AND K_{SUBO} IS K FOR EQUIL. CHARGE CARRIERS, $\ln(1-T_{SUBO})$ EQUALS MINUS $\Sigma D \Delta \bar{P}$ AND FOR ΔK_D IS SIMILAR TO 1, $K_{SUBO} D$ SMALLER THAN 1, $\ln(1-T_{SUBO})$ EQUALS $\ln(1-R_{PRIME}^2)$ MINUS $\Sigma D \Delta \bar{P}$, WHERE T_{SUBO} AND T IS RADIATION PASSED UP TO AND AT EXCITATION, RESP.

FACILITY: SARATOV. GOSUNIV. IM. CHERNYSHEVSKOGO, SARATOV, USSR.

UNCLASSIFIED

1/2 025 UNCLASSIFIED PROCESSING DATE--3006170
TITLE--ABSORPTION OF RADIATION BY LOCALLY EXCITED CHARGE CARRIERS -U-

AUTHOR-(103)-ABANSHIN, N.P., BILENKO, D.I., LODGAUZ, V.A.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., FIZ. 1970, 13(3), 133-5

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--ELECTRON HOLE, CARRIER DENSITY, PARTICLE DISTRIBUTION,
ELECTROMAGNETIC WAVE ABSORPTION, EXCITED ELECTRON STATE, CALCULATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/1215

STEP NO--UR/0139/70/013/003/0133/0135

GIRC ACCESSION NO--AP0124869

UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0124575

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHOR ANALYSES AND SCIENTIFICALLY SUBSTANTIATES THE NUMBER OF EMPLOYEES IN QUALITY INSPECTION DEPARTMENT OF A MACHINE TOOL FACTORY AND THE LEVEL OF THE INSPECTOR SKILL. THE FOLLOWING FACTORS ARE CONSIDERED: INFLUENCE OF THE RYTHM OF THE WORK PACE UPON THE QUALITY OF THE INSPECTION: DEPENDANCE OF THE QUALITY OF ASSEMBLY INSPECTION ON THE NUMBER OF QUALITY INSPECTION SERVICES, ETC.

UNCLASSIFIED

1/2 015 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--FINDING BEST VALUES FOR NUMBER AND SKILL OF QUALITY INSPECTION
PERSONNEL -U-
AUTHOR--ABANKIN, V.I. A
COUNTRY OF INFO--USSR
SOURCE--STANDARTY I KACHESTVO, 1970, NR PP 35-40
DATE PUBLISHED-----70
SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--QUALITY CONTROL, BIBLIOGRAPHY, MACHINERY MANUFACTURING PLANT,
MACHINE TOOL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAHE--2000/0914 STEP NO--UR/0422/70/000/006/0035/0040
CIRC ACCESSION NO--AP0124575
UNCLASSIFIED

USSR

UDC 669.26.046

YEVSTYUKHIN, A. I., ~~ABANIN, D. D.~~, KORNEYEV, V. A., MASLOV, V. P.

"Obtaining Alloys Based on Chromium by the Iodide Method"

V sb. Metallurgiya i metalloved. chist. met. (Metallurgy and Physical Metallurgy of Pure Metals -- collection of works), vyp. 9, Moscow, Atomizdat Press, 1971, pp 12-19 (from RZh--Metallurgiya, No 4, Apr 72, Abstract No 4G338)

Translation: In order to obtain iodide alloys of Cr with Y, V, and Ti, the charge was pressed and melted in an argon atmosphere in an arc furnace. Shavings which entered into the iodide process were prepared from the ingot obtained. Calculations were performed determining the possibility of deposition of Cr alloys with V, Ti, and V. Thermal dissociation was carried out by the Van Arkel scheme. In all the experiments the filament temperature was 1,000-1,100°, and the flask temperature was 750-800°. The precipitates obtained in the iodide process were remelted in an arc furnace and investigated. The Cr-V and Cr-Ti alloys in the analyzed concentration range are single-phase, but separations of a second phase are obvious in the microstructure of the Cr-Y alloy. On introduction of Y into the raw material, the effect of additional purification of the Cr is observed in the process of iodide refining. The iodide alloys of Cr with V and Ti were obtained, and the transfer coefficient was found as a function of the raw material composition.

1/1

Single Crystals

USSR

UDC 669.26-172

ABANIN, D. D., (DECEASED), YEBSTYUKHIN, A. I., HASLOV, V. P., RAKITSKIY, A. N., and TREFILOV, V. I., Moscow, Kiev

"Structure and Mechanical Properties of Chromium Iodide Single Crystals"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 1, Jan/Feb 74, pp 143-149

Abstract: The structure and mechanical properties of chromium iodide were studied to determine why chromium is extremely brittle at room and low temperatures. Single crystals of chromium were produced from the thermal dissociation of chromium iodide which had a high degree of perfection (ratio of electrical resistances measured at 300 and 4.2° K was equal to $(1.5-3.0) \times 10^2$). Bend tests of the single crystals showed that the modulus of elasticity for chromium has a minimum value in the $\langle 111 \rangle$ direction which is caused by the accumulation of dislocations in the $\{111\}$ plane, being higher than in planes $\{100\}$ and $\{110\}$. It was also noted that with increased purity of the single crystals from interstitial impurities the specific surface energy minimum transfers from plane $\{111\}$ to plane $\{100\}$. Therefore, brittle slip in chromium single crystals occurs in these two planes. Six figures, two tables, 32 bibliographic references.

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2/2 019

UNCLASSIFIED

PROCESSING DATE--02JCT70

CIRC ACCESSION NO--AP0102812

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS PRESENT THE ANALYSIS
OF THEIR EXPERIENCE WITH 984 OPERATIVE PROCEDURES PERFORMED ON THE HEART
AND LARGE VESSELS IN THE HOSPITAL OF THE PYATIGORK CITY.

UNCLASSIFIED

1/2 019 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--A SUMMARY OF THE RESULTS OF SURGICAL TREATMENT OF THE CARDIAC AND
MAJOR VESSELS IN THE CAUCASUS MINERAL WATERS -U-
AUTHOR--(05)--TOSHINSKIY, I.I., BOGOYEV, D.N., KUPTSOV, KH.N., FISHOVA,
R.Z., ABANICHEV, N.I.
COUNTRY OF INFO--USSR

SOURCE--VESTNIK KHIRURGII IMENI I. I. GREKOVA, 1970, VOL 104, NR 3, PP
25-32
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--SURGERY, CIRCULATORY SYSTEM, HEART, BLOOD VESSEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1986/0951

CIRC ACCESSION NO--AP0102812

UNCLASSIFIED

STEP NO--UR/0589/70/104/003/0025/0011

USSR

ABALONIN, B. YE., et al, Zhurnal Obshchey Khimii, Vol 40, No 8,
Aug 70, pp 1812-1817

sinous acids. Examination of the products by means of IR and PMR spectroscopy showed that no alkoxy groups are present in these products. It was determined that in the above reactions only the tetraalkyl- and trialkylphenylarsonium salts are formed. Tetraethyl arsonium iodide reacted with magnesium perchlorate underwent an exchange reaction yielding tetraethylarsonium perchlorate m.p. 291°.

USSR

UDC 547.242

ABALONIN, B. YE. CHERNOMAL'SKIY, B. D., SHACIDULLIN, R. A.,
IZOSEMOVA, S. V., ZIKOVA, T. V., KAMAY GIL'M (DECEASED), Kazan'
Chemical-Technological Institute imeni S. M. Kirov, Kazan, Ministry
of Higher and Secondary Specialized Education RSFSR, and Institute
of Organic and Physical Chemistry imeni A. Ye. Arbuzov, Academy
of Sciences USSR

"The Products of the Reaction of Arsinous Acid Esters With Alkyl
Halides"

Leningrad, Zhurnal Obshchei Khimii, Vol 40, No 8, Aug 70,
pp 1812-1817

Abstract: The reactions were carried out by one of two methods:
a) ethyl ester of diethylarsinous acid and ethyl iodide were kept
in an ampule under CO₂ atmosphere for 120 hours at room temperature,
the precipitated tetraethylarsonium iodide was recrystallized
from an etherealcohol mixture and showed a m.p. of 291°; or b) the
same mixture was heated to 100° for 2 hours in an ampule under CO₂
atmosphere, yielding the same product. By these reactions other
alkyl halides reacted with esters of dialkyl- and phenylalkylar-
1/2

USSR

UDC 546.26.119

KAMAY, G. Kh. (deceased), ABALONIN, B. Ye., CHERNOKAL'SKIY, B. D., IZOSIMOVA, S. V., and SHAGIDULIN, R. R., Kazan Chemical Technological Institute imeni S. M. Kirov, and Institute of Organic and Physical Chemistry imeni A. Ye. Arbuzov, Acad. Sc. USSR

"Reaction of bis-(Dialkylarsine)-oxides With Alkyl Iodides"

Izvestiya VUZ -- Khimiya i Khimicheskaya Tekhnologiya, Vol 14, No 5, 1971, pp 724-727

Abstract: Bis-diethylarsine)-oxide reacts energetically with benzoic and acetic acyl chlorides yielding in the first case a mixed anhydride of diethylarsinous and benzoic acids, the products of the second reaction being inseparable. Reaction of bis-(diethylarsine)-oxide with alkyl halides is more complex: with ethyl iodide a crystalline product is obtained from which a careful workup yields tetraethylarsonium iodide, ethyl ester of diethylarsinous acid and diethyliodoarsenic. Diethyliodoarsenic in turn can react with ethyl iodide yielding triethylarsine diiodide. Reactions with methyl iodide are so vigorous that a solvent is recommended. Diphenylarsine oxide, however, even after heating for 2 hrs to 100° was recovered unchanged.

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USSR

UDC 543.428.35:546.19

ZYKOVA, T. V., KARY, GIL'AM (Soviet), CHERNOMAL'SHIK, E. D., SALIMYEDOV, R. A. and ABALONIN, B. Ye., Kazan Chemical-Technological Institute S. M. Kirov

"IR Spectra and Structures of Arsenium Salts"

Leningrad, Zhurnal Obshchey Khimii, Vol 41, No 5, May 1971, pp 1044-1047

Abstract: IR spectra analysis was used to study the structures of alkyl- and aryl-arsenium salts. The observed shifts are caused by the nature of the arsenic atom environment, its position, and the nature of the solvent and the concentration of the salts were examined. Thus, a change in the magnitude of the observed shift of the $\nu_{\text{As-Cl}}$ band is observed in the presence of a substituent, which is the relative extent of the shift in arsenic salts versus the salts of iodine, the phenyl group, and the position of the salt to iodine.

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USSR

UDC 546.26'119

CHERNOKAL'SKIY, B. D., ABALONIN, B. Ye., SHAGIDULLIN, R. R., IZOSIMOVA, S. V.,
and KAMAY, GIL'M, Kazan' Chemical-Technological Institute imeni S. M. Kirov

"Reaction of the Esters of Arsenious Acids with Alkyl Halides"

Leningrad, Zhurnal Obshchey Khimii, Vol XL, No 12, Dec 70, pp 2645-2648

Abstract: It was demonstrated earlier by several of the authors that during the reaction of the esters of arsenious acids with alkyl halides, instead of the expected alkoxyarsonium salts, quaternary arsonium salts are formed; it was of interest to study the effect of the structure of the starting ester on that of the final product.

A series of esters of several arsenious acids were studied for this purpose; these differed with regard to the nature of the hydrocarbon radical of the ester group. It was shown that the hydrocarbon radical of the alkoxy group in no case enters into the composition of the arsenious salt formed.

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USSR

IVANOV, R. D., et al., Radiotekhnika i Elektronika, Vol XVI, No 2, February 1971, pp 447-449

the surrounding surface; 2) spots with higher conductivity; and 3) in the presence of a through pore in the dielectric, the upper electrode of the M-D-M system has a dip. The mechanisms of these defects and detection of them are described. Pictures are presented showing the defects, the variation in behavior of spots with high trap concentration as a function of U_{bias} and charge accumulation in a through pore in the operating mode of the M-D-M system.

2/2

USSR

UDC 539.216.2:621.315.61

IVANOV, R. D., ABALMAZOVA, M. G.

"Study of Electrical Inhomogeneities of Film Dielectrics by the Electron Mirror Method,"

Moscow, Radiotekhnika i Elektronika, Vol XVI, No 2, February 1971, pp 447-449.

Abstract: In this article it is demonstrated that studying the inhomogeneities of film dielectrics by the method of electron mirror microscopy permits quality control of the dielectric of a M-D-M film system and also explanation of the characteristic features of operation of film elements and provision for possible change during operation.

In the experiment Sb_2S_3 and Ta_2O_5 films were observed. Even when the dielectric films were obtained by various methods, defects having certain common features were detected on their surfaces. In addition to dirt pits and geometric inhomogeneities (including blind pores) the following defects were detected: 1) spots with lower conductivity than $1/2$

2/2 009

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0109443

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THIS ANALYSIS INCLUDES 132 FAMILIES, IN 94 FAMILIES (200 SUBJECTS) SCOLIOSIS WAS OBSERVED IN 2 AND MORE PERSONS, IN 38 FAMILIES THE RELATIVES OF SCOLIOTIC PATIENTS SUFFERED FROM ENURESIS, 35 SCOLIOTIC PATIENTS ALSO HAD ENURESIS. ALL PATIENTS WITH SCOLIOSIS WERE DIVIDED INTO 3 GROUPS: SCOLIOSIS IN HOMO AND HETEROZYGOUS TWINS, SCOLIOSIS IN PARENTS AND CHILDREN, SCOLIOSIS IN TWO CHILDREN FROM ONE FAMILY. OF 8 PAIRS OF TWINS, 7 PAIRS WERE HOMOZYGOUS. AMONG 8 PAIRS, THERE WERE 6 PAIRS OF SISTERS, BROTHER AND SISTER IN ONE PAIR, AND BROTHERS IN ANOTHER. SCOLIOSIS IN TWINS WAS ALWAYS CONCORDANT, BUT IN ONE OF THEM ALWAYS MORE SEVERE THAN IN THE OTHER. BY THE CHARACTER AND SEVERITY, SCOLIOSIS IN THE DAUGHTER WAS IDENTICAL TO THAT OF THE MOTHER, WHILE IN THE SON IT WAS ALWAYS LESS MARKED. SCOLIOSIS IN THE SON BY THE CHARACTER AND SEVERITY WAS IDENTICAL TO THAT OF THE FATHER, WHILE IN THE DAUGHTER IT WAS ALWAYS MORE SEVERE. SCOLIOSIS OF VARIOUS SEVERITY WAS A RULE IN THE GROUP WHERE IT WAS PRESENT IN TWO CHILDREN OF THE SAME FAMILY. AMONG ALL SCOLIOSIS, THE SCOLIOSES IN PARENTS AND CHILDREN CONSTITUTED THE LARGEST GROUP AND, MOREOVER, THE INCIDENCE OF SCOLIOSIS IN THE MOTHER AND CHILDREN WAS 3 TIMES HIGHER THAN IN THE FATHER AND CHILDREN. IN ALL GROUPS SCOLIOSIS WAS MORE FREQUENTLY OBSERVED IN THE FEMALES, BUT IN THE GROUP WITH SCOLIOSIS IN THE MOTHER AND CHILDREN, THE PREVALENCE OF FEMALES WAS ESPECIALLY MARKED. THE AUTHORS BELIEVE MYCLODYSPLASIA AND THE DYSRAPHIC STATUS TO BE THE MOST FREQUENT CAUSE OF SCOLIOSIS DEVELOPMENT. FACILITY: TSENTRAL'NOGO INSTITUTA TRAVMATOLOGII I ORTOPEDII.

UNCLASSIFIED

1/2 009 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--FAMILIAL FORMS OF SCOLIOSIS -U-

AUTHOR-(04)-ABALMASOVA, YE.A., KOGAN, A.V., NIKITINA, M.P., KHADZHAYEV,
R.R.

COUNTRY OF INFO--USSR

SCURCE--ORTUPEDIYA, TRAVMATOLOGIYA I PROTEZIROVANIYE, 1970, NR 4, PP 22-26

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--MUSCULOSKELETAL DISEASE, HEREDITARY DISEASE, HUMAN GENETICS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/1362

STEP NO--UR/9115/70/000/004/0022/0026

CIRC ACCESSION NO--AP0109443

UNCLASSIFIED

USSR

UDC 621.382.002

KOROBOV, A.I., ABALMAZOVA, M.G., KARASEV, V.I., NAUMCHENKO, A.S., REPIN, V.A.

"Methods Of Control Of The Imperfections Of The Film Structures Metal--Dielectric--Metal"

Elektron. tekhnika. Nauch.-tekhn.sb.Upr.kachestvom i standartiz. (Electronics Technology. Scientific-Technical Collection. Control Of Quality And Standardization), 1971, No 4(10), pp 12-19 (from RZh:Elektronika i yeye primeneniye, No 1, Jan 72, Abstract No 1B515)

Translation: Methods are considered for control of imperfections of the thin-film structure metal--dielectric--metal: electrochemical coloration of the channels of high conductivity in the dielectric film, observation of local charges on the surface of the film with the aid of a mirror electron microscope, measurement of the dependence of the number of partial breakdowns on the magnitude of the applied voltage, and also the frequency dependence C and $\operatorname{tg} \delta$ of capacitors in the low-frequency (40--5000 Hz) region, and measurement of the residual polarization. The characteristics are presented of the degree of imperfection of a number of structures which are used in thin-film microcircuits. The qualitative agreement is shown of the evaluation of the imperfection of these structures by various methods. Summary.

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58, 4/6
579
44

USSR

UDC: 669.28'849'786

FREZE, N. I., SHCHUKIN, A. A., ABALIKHIN, A. V., MAL'TSEV, M. V., MIL'MAN, Yu. V., KURDYUMOVA, G. G.

"All-Union Scientific Research and Design Institute of Refractory Metals and Hard Alloys"

"A Molybdenum-Based Alloy"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztzy, Tovarnyye Znaki, No 12, Apr 72, Author's Certificate No 334270, Division C, filed 28 Sep 70, published 30 Mar 72, p 104

Translation: This Author's Certificate introduces a molybdenum-based alloy which contains rhenium. As a distinguishing feature of the patent, the physicommechanical properties of the alloy are improved by adding carbon, taking the components in the following proportions in percent:

| | |
|-----------------|----------|
| rhenium | 35-50 |
| carbon | 0.02-0.2 |
| molybdenum base | |

USSR

UDC: 661.143

ABALDUYEV, B. V.

"Some Peculiarities of Low-voltage Cathode Luminophors"

Elektron. tekhnika. Nauch.-tekhn. sb. Elektrovakuum. i Gazorazryad. Pribory [Electronic Equipment, Scientific and Technical Collection of Electric Vacuum and Gas-discharge Instruments], No 1, 1972, pp 12-15 (Translated from Referativnyy Zhurnal Khimiya, No 24(11), 1972, Abstract No 241135, from the Resume)

Translation: The specific features of low-voltage cathode luminescent materials (CLM) result from the small depth of penetration of bombarding electrons. The most important of the requirements for low voltage CLM are low width of the forbidden zone, high conductivity, low starting potential of luminescence. With a current density of 1 ma/cm^2 and voltage across the CLM of 20v, the maximum possible brightness is 1600 n. To assure impractice good brightness of 200 n, an energy yield of 3-6% is required. This work contains estimates of the prospects for certain classes of luminophors.

2/2 025

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0139608

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EFFECT OF TOTAL X IRRADON. (DOSE NOT GIVEN) AND CAFFEINE ON THE URINARY EXCRETION OF EXOGENOUS 3 PRIME, 5 PRIME, AMP PRIME32 P (I), 5 PRIME (II), 5 PRIME AMP PRIME32 P (III), AND 3 PRIME, 5 PRIME AMP PRIME3 H (III) HAS BEEN STUDIED IN RATS. AN INCREASED RADIOACTIVITY EXCRETION FOLLOWING THE ADMINISTRATION OF I AND III, AND A DECREASED RADIOACTIVITY EXCRETION FOLLOWING THE ADMINISTRATION OF II WAS OBSD. IN IRRADIATED ANIMALS AS WELL AS IN ANIMALS GIVE CAFFEINE. A PORTION OF EXOGENOUS I AND II WAS EXCRETED IN UNCHANGED FORM. QUANT. AND QUAL. DIFFERENCES WERE NOTED IN THE EXCRETION OF RADIOACTIVITY AFTER THE ADMINISTRATION OF LABELED NUCLEOTIDES AND NA USB2 H PRIME32 PO SUB4. FACILITY: TSENT. INST. USOVERSH. VARACH., MOSCOW, USSR.

UNCLASSIFIED

1/2 025 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--EFFECT OF TOTAL X RAY IRRADIATION AND CAFFEINE ON THE EXCRETION OF
EXOGENOUS 3 PRIME, 5 PRIME AMP PRIME32 P, 5 PRIME AMP PRIME32 P, AND 3
AUTHOR--(03)-FEDOROV, N.A., ABAKUMOVA, O.YU., KOTOV, N.N.

COUNTRY OF INFO--USSR

SOURCE--RADIOBIOLOGIYA 1970, 10(2), 307

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--X RAY RADIATION BIOLOGIC EFFECT, URINE, RAT, NUCLEOTIDE,
CENTRAL NERVOUS SYSTEM STIMULANT, PHOSPHORUS ISOTOPE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605004/812 STEP NO--UR/0205/70/010/002/0307/0307

CIRC ACCESSION NO--AP0139608

UNCLASSIFIED

ABAKUMOVA G.S.

Acc. Nr:

AA0040503

Abstracting Service:

CHEMICAL ABST. 4/70

Ref. Code:

UAR 0482

81213h Greases. Kumleva, L. A.; Nikolaeva, N. M.; Korolev, A. L.; Makeyeva, E. D.; Levchenko, S. N.; Abakumova, G. S.; Libovskaya, N. I. U.S.S.R. 253,981 (Cl. C 10m), 07 Oct 1969, Appl. 27 Jul 1968; From *Otkrytiya, Izobret., Prom. Obratzy, Tovarnye Znaki* 1969, 46(31), 65. The title greases are thickened with silica gel. To make sure of the conducting properties of the lubricant, poly(oxyalkylene) glycol liq. is used as a dispersion medium. To remove and break up the oxide films of metals, 0.1-10% polyhydric phenol is added to the lubricant, which consists of 5-15% silica gel and 95-85% poly(oxyalkylene) glycol liq. MSCL

ALS

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 REEL/FRAME
 19750003
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USSR

A UDC 621.396.6.002.621.795 3

KUMLEVA, L. A., NIKOLAYEVA, N. M., KOROLEV, A. L., MAKHEYEVA, Ye. D., LENCHENKO, D. N.,
ABAKUMOVA, G. S., LIPOVSKAYA, N. I.

"Lubricating Grease"

USSR Author's Certificate No 253961, Filed 27 Jul 68, Published 20 Feb 70 (from
RZh-Radiotekhnika, No 10, Oct 70, Abstract No 10V295 P)

Translation: The authors propose a lubricating grease based on a dispersion medium thickened with silica gel, to which liquid polyoxyalkyleneglycol is added as the dispersion medium. In order to loosen and remove oxide films from metals, polyatomic phenol is added to the lubricant in quantities of 0.1-10%, silica gel is used in quantities of 5-15%, and liquid polyoxyalkyleneglycol -- 95-85%.

2/2 037

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0110473

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE INTERDEPENDENCE OF THE TRANSMITTANCE τ OF THE EARTH'S ATM. ON THE MASS OF THE ABSORBING SUBSTANCE χ IN THE PATH OF THE LIGHT BEAM MAY BE EXPRESSED BY THE ORTHOGONAL SERIES OF THE EXPONENTIAL FUNCTIONS IN FORM : (EQUATION SHOWN ON MICROFICH). THE METHOD OF CALCN. OF THE COEFFS. C_{SUBK} AND α_{SUBK} ARE GIVEN. THE METHOD IS EXEMPLIFIED ON THE SPECTRAL ABSORPTION OF THE IR RADIATION BY H_2O IN THE $6.3\text{-}\mu$ BAND. THE MEAN SQUARE DEVIATION IS 0.009 AND 0.007 FOR χ SMALLER THAN 1 AND χ SMALLER THAN 25, RESP. FACILITY: MOSK. GOS. UNIV., MOSCOW, USSR.

UNCLASSIFIED

1/2 037 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--APPROXIMATION OF THE TRANSMISSION COEFFICIENT BY MEANS OF
COMBINATIONS OF EXPONENTIAL FUNCTIONS -U-
AUTHOR-(02)-DMITRIYEV, A.A., ABAKUMOVA, G.M. A
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, FIZ. ATMOS. OKEANA 1970, 6(1), 102-3
DATE PUBLISHED-----70
SUBJECT AREAS--ATMOSPHERIC SCIENCES, NAVIGATION
TOPIC TAGS--IR RADIATION, SPECTRAL ABSORPTIVITY, FUNCTION, ATMOSPHERE,
WATER, ATMOSPHERIC WATER VAPOR
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1991/0749 STEP NO--UR/0362/70/006/001/0102/0103
CIRC ACCESSION NO--AP0110473
UNCLASSIFIED

USSR

GOLENKO, D. I., ABAKUMOV, V. I.

"One Problem of Distribution of Resources in a Multilevel System of Control of Reserves"

Tr. Mosk. Ekon.-stat. In-ta [Works of Moscow Institute of Economics and Statistics], No 4, Part 1, 1971, pp 49-65, (Translated from Referativnyy Zhurnal, Kibernetika, No 3, 1972, Abstract No 3 V456).

NO ABSTRACT.

2/2 010

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0118063

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE HITHERTO USED LENGTHS OF THE PREHEAT, FIRING, AND COOLING ZONES OF TUNNEL KILNS FOR FIRING MAGNESITE PRODUCTS ARE NOT OPTIMUM. IMPROVEMENT OF THE EFFICIENCY OF FURNACES IS POSSIBLE BY CHANGING LENGTHS OF ZONES. THE PREHEAT ZONE CAN BE SHORTENED BECAUSE ONE CAN ACCELERATE THE HEATING OF THE MAGNESITE PRODUCTS IN THIS ZONE DEPENDING ON THE HEAT TRANSFER AND PRODUCT CHARGING RATES. ON SHORTENING THE PREHEATING ZONE, THE COOLING ZONE CAN BE EXTENDED. FACILITY: VSES. INST. OGNEUPOR., LENINGRAD, USSR.

UNCLASSIFIED

1/2 010 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--CORRELATION OF THE LENGTHS OF THE ZONES OF HIGH TEMPERATURE TUNNEL
KILNS -U-
AUTHOR--(03)--SHUMILIN, A.A., ~~ABBAKUMOV, J.G.~~, TARAKANCHIKOV, G.A.
COUNTRY OF INFO--USSR A
SOURCE--OGNEUPORY 1970, 35(3), 8-15
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--INDUSTRIAL FURNACE, REFRACTORY MATERIAL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/0894 STEP NO--UR/0131/70/035/003/0008/0015
CIRC ACCESSION NO--AP0118063
UNCLASSIFIED

USSR

A
SHUMILIN, A. A., ABBAKUMOV, V. G., TARAKANCHIKOV, G. A.

"The Problem of the Relationship of Zone Lengths in a High-Temperature Tunnel Furnace"

Moscow. Ogneupory. No 3, Mar 70, pp 8-15

Abstract: The relationship of heating, roasting, and cooling zone lengths in existing high-temperature tunnel furnaces for roasting of magnesium products is not optimal. This creates reserves for the improvement of the operation of the furnace, by optimization of the relationship of zone lengths. The heating zone in a high-temperature tunnel furnace generally completes the heat exchange process and then includes some additional length. This zone can be shortened without any damage to the operation of the furnace, allowing an increase in the cooling zone length.

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USSR

UDC 681.327

ABAKUMOV, V. G., and NESIN, S. P.

"Automatic Accumulators in Devices for Processing Experimental Data"

Avtomatiz. Proyektir. v Elektronike. Resp. Mezhved. Nauchno-Tekhn. Sb.
[Automation of Planning in Electronics, Republic Interdepartmental Scientific and Technical Collection], No 1, 1970, pp 98-100 (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 5, 1971, Abstract No 5B 349 by T. D.)

Translation: This concerns a study of the problem of the use of magnetic tape storage units for recording of experimental data. It is shown that it is expedient to design accumulators so that they are compatible with computer magnetic tape drives. Requirements which must be satisfied by recording documents in order to provide compatibility are studied. The tape transport rate during recording may vary; measures should be taken to assure that the longitudinal recording density does not exceed the nominal value for the magnetic tape accumulator of the computer in question. The construction of compatible recorders allows the time required to input data to the computer to be greatly reduced and significantly simplifies the input procedure.

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of α -hydroxy acids and α -hydroxy ketones (Z. V. Tolkachev). In the reports of S. P. Sidorov and L. I. Zakhvalov it was shown that the preferential reaction of the ester formed is directed not only on the α carbon of the ester, but also on the carbonyl carbon of the ester, leading into the formation of the cyclic acetalized form of the lactic acid.

ethylbenzyl derivative of the type of β -methyl- α -ethyl- β -glycidyl ether, established from the reaction of potassium ethoxide with ethylbenzyl chloride, also has the ethylbenzyl-ether-ethylbenzyl ether. A completely different type of form, in hexamethyl, side by side with the ethylbenzyl ether, in ether acid, in hexamethyl of the ethylbenzyl ether, leads to (1-ethylbenzyl) union, which results from the reaction of (1-ethylbenzyl) ether with ethylbenzyl ether. Such compounds such as tri-(ethylbenzyl) ether or di-(ethylbenzyl) ether-sodium are capable of participating in electrophilic attack in non-polar solvents of the type of benzene, in a relatively strong acceptor, for example tri-(ethylbenzyl) ether, is used (Academical G. A. Rozhnov and G. A. Zakharenko).

W. I. Kampeit and O. Yu. Chelintseva¹ revealed the general mechanism of the oxidation of organometallic compounds, according to which a single electron action runs from those derivatives and they simultaneously decompose into an organic radical and the cation of the metal. The radicals, if they do not react chemically, give off a still another electron, being oxidized to carbocations. The reaction ends with the stage of stabilization of these cations, for example, through their reaction with molecules of the solvent. The establishment of such a mechanism explains the formation of benzoic acetate as the main product of the oxidation of benzylmercuracetate by lead tetracetate in acetic acid. Aliphatic mercury chlorides under the same conditions give ethers of acetic acid, paraffins and olefins. The formation of hydrocarbons in that reaction also indicates the existence of radicals as intermediates of the oxidation.

The ability of organomercury compounds to act as electron donors was shown on the example of reactions of dialkyl mercury with tetramethene (S. A. Serebryy, I. P. Polyakov, et al.). Upon reacting with nitrogen, fluorine, and chlorine, dialkyl mercury gives an aromatic hydrocarbon and (dialkylmercapto) as the main product and a certain quantity of ArH_2Ar (A. N. Khashin, I. P. Polyakov, and V. I. Stenok). The obtained results agree with the hypothesis that in the first stage of the reaction the cation-radical of dialkyl mercury and the radical anion form. The latter forms through electron transfer either to the aluminum cation or to the tetramethene. The cation-radical of dialkyl mercury decomposes, giving the highly reactive radical Ar^\cdot . That radical reacts insignificantly with the slowly reactive

ABAKUMOV, G.A.

CHEMICAL TRANSFORMATION

SINGLE-ELECTRON TRANSFER AND CHEMICAL TRANSFORMATION
(Conference in Rostov-on-Don)

[Article by Candidate of Chemical Sciences, G. A. ABAKUMOV, Moscow, Voenno-Akademicheskii Nauchnyi Tsentr, Russian, No. 9, September 1972, pp. 10-110]

A conference on the role of electron transfer in chemical reactions was held in Rostov-on-Don on 12-25 May. It was organized by the Northern Caucasus Scientific Center of the High School, about 40 reports were presented. Participation in the conference were the leading chemical institutions in the USSR and the Russian academic, and also Rostov-on-Don, Moscow, Leningrad and Gorkiy universities.

Chemical reactions are usually regarded as the rupture and formation of bonds, that is, the rearrangement of the skeleton of a molecule. It is now considered, however, that the displacement of atoms or atomic arrangements is preceded by the transfer of electrons from one of the reacting molecules to the other. The study of that stage, which has become possible through the use of new instrumental methods of investigation, especially of electron paramagnetic and nuclear magnetic resonance, expands concepts of the reaction mechanism as a sequence of elementary steps known to us.

As a result of electron transfer new particles appear, not known to organic chemistry of the past. The properties of these products were examined in a number of reports. Homolysis, cyclo-oligomerization and other enzymes with Fe(II) after electron transfer give nonequilibrium forms in which the iron has already gone over into the state Fe(II) but the protein part still retains its previous configuration (R. M. Davydov). The transformation of 4-4-dinitro-cis-stilbene into an enantiomer is accompanied by complete cis-trans-isomerization. Destruction of the symmetry of the molecule leads to establishment of equilibrium 4-nitro-cis-stilbene in the presence of electron transfer gives a mixture

2/2 049

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0116703

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SPECTRA OF TRIPLET TRIPLET (T-T) ABSORPTION OF PH SUB2 CO AND NAPHTHALENE IN BENZENE SOLN. WERE MEASURED AT ROOM TEMP. BY USING A RUBY LASER 2ND HARMONICS RADIATION (LAMBDA EQUALS 347 NM; POWER 0.3-0.5 MW, AND PULSE DURATION SIMILAR TO 30 NSEC) AS THE EXCITATION SOURCE. THE 2ND HARMONICS WAS OBTAINED WITH A KH SUB2 PO SUB4 SINGLE CRYSTAL (25 MM LONG). SOLNS. OF FLUORESCENIN IN HOAC WATER MIXT. AND OF PHENYLACRIDONE IN ETOH WERE USED AS SOURCES OF VISIBLE REGION RADIATION. THE POSITIONS OF MAX. IN PH SUB2 CO AND NAPHTHALENE AT 350 AND 420 NM, RESP., IN THE T-T SPECTRUM, ARE IN GOOD AGREEMENT WITH LITERATURE DATA. THE ADVANTAGES OF THE USE OF LASER RADIATION FOR THE EXCITATION OF ORG. MOLs. IN SOLNS. ARE DISCUSSED.

UNCLASSIFIED

1/2 049 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--MEASUREMENT OF TRIPLET TRIPLET ABSORPTION SPECTRA OF MOLECULES OF
ORGANIC COMPOUNDS IN LIQUID SOLUTIONS BY USING A LASER -U-
AUTHOR--(04)-TSURIKOV, YU.L., ABAKUMOV, G.A., TRUSHANOV, A.A., SIMONOV,
A.P.
COUNTRY OF INFO--USSR
SOURCE--ZH. PRIKL. SPEKTROSK. 1970, 12(2), 336-8
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, PHYSICS
TOPIC TAGS--ABSORPTION SPECTRUM, NAPHTHALENE, RUBY LASER, AROMATIC KETONE,
BENZENE, PULSE EXCITATION, LASER RADIATION, SECOND HARMONIC
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1995/1241 STEP NO--UR/0368/70/012/002/0336/0338
CIRC ACCESSION NO--AP0116703
UNCLASSIFIED

USSR

YANAYT, Yu. A., ABAKUMOV, G. A., KROMSKIY, G. I., SIMONOV, A. P., FADEYEV, V. V., and KHOKHLOV, R. V., Moscow State University imeni M. V. Lomonosov and The Physico-Chemical Institute imeni L. Ya. Karpov

"Generation in the Ultraviolet Band With Frequency Tuning in a Paraterphenyl Solution Excited by a Flash Bulb"

Moscow, Pis'ma v Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 13, No 11, 5 Jun 71, pp 616-619

Abstract: This article discusses generation with fine tuning in the wavelength of 330-350 nm in a paraterphenyl solution excited by a flash bulb. One of the real problems in quantum electronics is the design of a frequency-tunable laser in the ultraviolet band of the spectrum. The authors show the broad possibilities here of using organic compounds as the active media especially paraterphenyl, which is found to be the best compound for producing tunable lasers in the ultraviolet band pumped by flash bulbs. The experimental procedures are discussed and the results are given in the form of an oscillogram and a table, which gives the threshold values and the limits of frequency tuning. The low values of the threshold energies for exciting the solutions shown in this table indicate that this pumping system is also effective for exciting a large number of other organic compounds. 1 figure, 1 table, bibliography of 3 titles.

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USSR

UDC 669.017.1:539.56.001.5

ZIKEYEV, V. N., SKOTNIKOV, V. V., GULYAYEV, A. P., ABAKOV, V. T., and
YELIZAROV, B. I.

"Study of Properties of Types 18KhNMFA and 18KhN1MFA Commercially Produced Experimental Steels"

Spetsial'nyye Stali i Splavy [Special Steels and Alloys--Collection of Works],
No 77, Metallurgiya Press, 1970, pp 207-214

Translation: It is demonstrated that the production, rolling and heat treatment of types 18KhNMFA and 18KhN1MFA steels under industrial conditions cause no difficulties.

The experimental steels are superior in mechanical properties to type 15KhGNFA steel, used for important parts of motor vehicle engines. They have high brittle rupture resistance and hardenability. 2 figures; 3 tables.

USSR

ASOYAN, L. M., USSR Authors' Certificate No 249762, Filed 2 April 1968, Published 15 January 1970 (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 10, 1970, Abstract No 123P, by L. Sh.)

of the first flip-flop of the next digit. The ones outputs of the low-order digit flip-flop and the second flip-flops of the next digits are used as outputs corresponding to binary code. The circuit suggested combines the functions of a Barker code to parallel binary code converter with the functions of memorization of the binary code. One illustration.

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UDC: 681.332.65

USSR

ASOYAN, L. M., BELKIN G. G., GRIGORYAN, R. Kh., KARANYAN, K. Kh., ABADZHYAN, S. S., GEVORKYAN, S. G.

"Parallel Barker Code to Parallel Binary Code Converter"

USSR Authors' Certificate No 249762, Filed 2 April 1968, Published 15 January 1970 (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 10, 1970, Abstract No 123P, by L. Sh.)

Translation: The converter suggested contains a register, each digit of which with the exception of the low-order digit, is made of two flip-flops connected with buses corresponding to the subdigits of Barker code and logic circuits. The ones and zeros outputs of the flip-flops of each digit are connected to two pairs of AND circuits respectively. The outputs of the AND circuits of each pair are connected through an OR circuit and delay line to the inputs of the second flip-flop of the same digit. The output of the OR circuit connected to the ones output of the triggers of the digit in question is connected also to the AND circuits connected to the outputs of the second flip-flop of the next digit. The output of the OR circuit connected to the zero outputs of the flip-flops is connected to the AND circuit which is connected to the outputs

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UDC 627.0.825.001.57

USSR

ABADZHYAN, K. A.

"Study of Abutment Configurations of Arch Dams"

Energ. str-vo -- V sb (Power Engineering Construction -- Collection of Works),
No 10 (112), Moscow, 1970, pp 84-86 (from RZh-Elektrotehnika i Energetika,
No 2, Feb 71, Abstract No 2 D215)

Translation: This article contains the results of model research of the carrying capacity of the "arch-foundation" system with abutments of different configurations. Recommendations are made for selecting the configurations of arch dam abutments. There are 2 illustrations, 2 tables and a 2-entry bibliography.

USSR

UDC: 621.374.5(088.8)

ABADULLINA, M. G., ORLOV, V. N., SOKOLINSKIY, A. G.

"A Variable Ultrasonic Delay Line"

USSR Author's Certificate No 266830, filed 11 Nov 68, published 2 Jul 70
(from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1G240 P)

Translation: The proposed variable delay line contains an acoustic line in the form of plates of a piezoelectric material and two electrodes, one of which is fixed while the other slides over the surface of a plate. To obtain continuous delay control, the movable electrode is made in the form of two strips of thickness $\lambda/3$ (where λ is the Rayleigh wavelength) displaced with respect to one another by a distance $\lambda/2$, and separated by an insulating gasket of thickness $\lambda/6$.

USSR

ABACHARAYEV, M. M., et al, Vestnik Mashinostroyeniya, No 12, Dec 71, pp 22-23
dening. The highest cavitation resistance of pig iron was attained by its saturation in the powder mixture KhMtsl at 1050 °C during 8 hrs. Generally, the chromium-manganese diffusion plating is a more reliable protection of pig iron against corrosion damage than the electrolytic chrome plating. Two illustr., one table, three biblio. refs.

USSR

UDC 621.436.2-222-232.174.
.002.3:669.15'26'74.196

~~ABACHARAYEV, M. I.~~, Candidate of Technical Sciences, and
VOROSHININ, L. G., Candidate of Technical Sciences, Associate
Professor

"Protection of Cylinder Bushings of Diesel Engines Against
Cavitation Damages by Chromium-Manganese Diffusion Plating"

Moscow, Vestnik Mashinostroyeniya, No 12, Dec 71, pp 22-23

Abstract : The use of chromium-manganese diffusion plating for
protection against cavitation erosion of cylinder bushings was
investigated on specimens, 25 mm in diam., 5 mm high, cut out
from a rod of pig iron 6Ch28-48, and on natural bushings of die-
sel engines Ch8.5/11. The microstructural analysis of the diffu-
sion layer showed two structural zones: a corrosion resistant
graphite-free carbide zone of high hardness (H 100 1210-1500)
directly on the surface and a zone of manganese austenite
(H 100 650-700), graphite-free, highly inclined to strain har-

UDC 669.28.017

USSR

ABARKOV, V. T., GINZBURG, V. I., and VOLKOV, YU. K.

"Corrosion Resistance of Molybdenum Alloys in Certain Corrosive Media"

Spetsial'nyye Stali i Splavy (Special Steels and Alloys -- Collection of Works), No 77, Metallurgiya Press, 1970, pp 72-76

Translation: It is demonstrated that domestically produced molybdenum alloys have high corrosion resistance in inorganic acids, iodide media, and certain special media. They are superior to nickel alloys such as hastelloy and certain refractory metals in this respect. 6 tables; 4 biblio. refs.

UDC 539.385

USSR

SHABALIN, V. I., ABABKOV, G. V., YEVSEYEV, V. V., and TOMANOVA, R. A.

"Investigation of the Laws Governing the Fatigue Failure of Aviation Alloys"

Sb. Nauch. Tr. Kiyev. In-t Inzh. Crazhd. Aviatcii (Collection of Works of the Kiev Institute of Civil Aviation Engineers), No 4, 1971, pp 57-61 (from Referativnyy Zhurnal, Mekhanika, No 2, Feb 72, Abstract No 2V1360 by L. M. Shkol'nik)

Translation: A study was made of the influence of the width and length of the working part of a sample upon the rate of growth of fatigue cracks, as well as of scattering of the test results with respect to the moment of appearance of the first macroscopic cracks and the moment of total failure of the sample. The tests were conducted on flat samples of aluminum alloys D16T and V95 with a central aperture, for repeated cyclical elongation with a frequency of 435 cycles per minute. It was established that the length of the samples does not affect their longevity and rate of crack growth. With a width increase of the samples and a length increase of the crack, the growth rate of the cracks increases. Increasing the width of the samples also brings about a decrease of the fatigue-failure stage and of the relative crack length at the moment of failure. With an increase of sample width, the coefficient of stress concentration at the end of a fatigue crack increases. The greatest scattering is

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Acc. Nr:

AP0046652

Abstracting Service
INTERNAT. AEROSPACE ABST

Ref. Code:

5-70 21 R 3663

A70-25290 # Study of the rate of propagation of fatigue cracks (Issledovanie skorosti rasprostraneniia treshchin ustalosti). V. I. Shabalin and G. V. Ababkov. *Problemy Prochnosti*, vol 2, Feb. 1970, p. 11-17. 10 refs. In Russian.

Results of a study of the rate of crack growth and of the relation between this stage of fatigue and the overall lifetime of specimens made of D16AT sheet alloy with holes as stress concentrators. It is shown that the rate of propagation of a fatigue crack must be related not to the length of the crack, but to the duration of the various phases of its development. It is necessary to establish a safe period of fatigue crack growth as a function of the material, the stress level, and the test conditions.

A.B.K.

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REEL/FRAME
19781965

UDC 632.95

USSR

AAVIK, KH. E., KABUN, A. V., KALLASORG, R. A., REVEL'SKIY, I. A.

"Study and Development of the Method of Microcoulometric Detection of Halogen and Sulfur Containing Compounds"

Tr. 2-go Vses. soveshch. po issled. ostatkov pestitsidov profilakt. zagryaz-
neniya imi produktov pitaniya, kormov i vnesh. sredy (Works of the Second All-
Union Conference on the Investigation of Pesticide Residues and Preventive
Contamination of Food Products, Feeds and Environment), Tallin, 1971, pp
16-22 (from RZh-Khimiya, No 12, Jun 72. Abstract No 12B421)

Translation: The conditions of 100% conversion of Cl and S-containing com-
pounds in a gas flow into HCl and H₂S are found, and a titration cell is de-
veloped which permits detection (by chlorine) of $\sim 10^{-9}$ grams of substance.
The selectivity coefficient with respect to hydrocarbons is $\sim 10^5$.

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- 45 -

UDC 632.95

USSR

AAVIK, KH. E., KALLASORG, R. A., REVEL'SKIY, I. A.

"Study of the Conditions Required for Microcoulometric Analysis of Phosphorus Containing Compounds"

Tr. 2-go Vses. soveshch. po issled. ostatkov pestitsidov profilakt. zagrязneniya iai produktov pitaniya, kormov i vnesh. sredy (Works of the Second All-Union Conference on the Investigation of Pesticide Residues and Preventive Contamination of Food Products, Fodder and Environment), Tallin, 1971, pp 23-27 (from RZh-Khimiya, No 12, Jun 72, Abstract No 12N423)

Translation: In analyzing organophosphorus compounds in a gas flow by means of a microcoulometric detector, a quartz tube (280 x 2 mm) at 950° and a titration cell with 35% AcOH are used. The degree of detection of the organophosphorus compounds is 70%, and the sensitivity is 5×10^{-9} grams.